

**REMARKS****I.     Status of the Claims**

Claims 1, 3, 5, and 8-11 were previously canceled.

Claims 4, 6 and 7 are amended.

Claim 12 is new.

Claims 2, 4, 6, 7, and 12 are pending.

**II.    Claim amendments**

Claim 6 is rewritten in an independent form as the examiner suggested. Therefore, applicants request allowance of claim 6. In addition, new claim 12 is included pursuant to the examiner's suggestion to combine the 307 and the 229 mutations. Support for this new claim is found throughout in the specification, especially in Example 11 and in the originally filed claims.

Claim 4 is amended to indicate that the complementary sequence is more than 85% identical to the sequence of SEQ ID NO: 12. Support for this amendment can be found for example, in Example 4 and Example 5.

Claim 7 is amended to clarify that the fragment includes a sequence capable of distinguishing the polymorphism at position 307 of the open reading frame of the FUT1 gene.

**III.    Pending Claims are novel over Larsen *et al.***

The examiner rejected claims 4 and 7 under 35 U.S.C §102(b) as being anticipated by Larsen *et al.*(1990) as evidenced by Meijerink *et al.*, 1997, a post-priority publication.

The Office Action, on page 4, reports that "Larsen *et al.* does not teach a porcine sequence." Claim 4 has been amended to clarify that the nucleotide sequence is more than 85% identical to the complementary sequence of SEQ ID NO: 12. The specification, in Examples 4 and 5, further describe that FUT1 ORF is about 82.3% identical to the human FUT1 and that FUT2 is about 85% identical to human FUT2. Larsen does not teach SEQ ID NO: 12. Larsen merely teaches the isolation of a cDNA encoding human FUT1. Meijerink *et al.*, (1997), published after the priority date of the present application, provides a comparison of human FUT1 and porcine sequences. Until the priority date of the present application, porcine FUT1

sequences were not known and thus it is improper to rely on a later published reference (Meijerink *et al.*) to assume that the “teaching of Larsen *et al.* providing human FUT1 that is homologous to porcine FUT1 anticipates the instant claims.” Claim 7, similarly, has been amended to clarify that the nucleotide sequence is more than 85% identical to SEQ ID NO: 12.

Larsen *et al.* does not teach all the elements of claims 4 and 7, and therefore applicants request withdrawal of the §102(b) rejection.

#### **IV. Pending Claims are novel over Brennan (U.S. Pat. No. 5,474,796).**

The examiner rejected claims 4 and 7 under 35 U.S.C §102(b) as being anticipated by Brennan (U.S. Pat. No. 5,474,796).

Brennan relates to apparatus and methods for making arrays of functionalized binding sites on a support surface and does not teach all the elements of claims 4 and 7. The examiner acknowledges that “Brennan does not teach SEQ ID NO: 12, nor any specific polymorphism” (page 5, Action), but adopts an unreasonable interpretation of the claims to include a sequence of “a tri-nucleotide such as ACG” and rejects the pending claims over Brennan.

Claims 4 and 7 have been amended as discussed in Section III of this paper. There is no teaching or evidence in Brennan that a nucleotide fragment recognizes FUT1 polymorphism at position 307 or a nucleotide fragment that is more than 85% identical to the sequence taught by SEQ ID NO: 12.

Brennan does not teach SEQ ID NO: 12 or any other features of the pending claims. Applicants request withdrawal of the §102(b) rejection.

#### **V. Conclusion**

Applicants thank the examiner for withdrawing §112 rejections, for allowing claim 2, and for suggestions regarding claim 6 and new claim 12. Applicants believe that the amended claims are allowable and request that the pending claims be allowed. If there remains any unresolved issue, applicants request an interview if necessary. Otherwise, applicants would like to at least have the allowed claims issue.

No fees are believed due at this time, however, please charge any deficiencies or credit any overpayments to deposit account number 12-0913 with reference to our attorney docket number (21459-91513).

Respectfully Submitted,



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